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ABSTRACT

ACT and 127 institutions (primarily community colleges) worked together on a Partners in Progress Research project comparing ASSET reading, writing, and math scores (incoming student placement tests) with CAAP reading, writing, and math scores (exiting student outcomes test). This was in order to refine the content of the related exams, and establish the degree of statistical relationship between them so that student intellectual growth might be measured between the student's point of entry and the point of exit from the institution. Administrators at Mid-Plains Community College Area (MPCCA) compared 108 pairs of ASSET and CAAP reading scores. Results indicated that reading improvement of MPCCA students was comparable with the public, two-year college normative percentages of improvement, with the majority of students achieving expected gains in their reading. In terms of writing test cohort, 163 matched ASSET/CAAP outcomes indicated that MPCCA students improved their writing ability at a slightly higher rate than the norm. For 162 ASSET/CAAP math outcomes, results indicated that although MPCCA had slightly more students improving at a lower rate than expected, they also had slightly more students improving at a slightly higher rate than the norm. (YKH)

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**ACT COLLEGIATE ASSESSMENT OF
ACADEMIC PROFICIENCY
CAAP**

**STUDENT COHORT
GROWTH REPORT**

Report Completed by

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Part I

Introduction

During the late 1980's and early 1990's ACT and 127 institutions (primarily community colleges) established and worked together on a (Partners in Progress Research Project.) This was an effort to accumulate enough matched pairs of ASSET reading, writing, and math scores (incoming student placement test) and CAAP reading, writing, and math scores (exiting student outcomes test) to (1) fine tune the content of the related exams, (2) established the degree of statistical relationship between the exams so that (3) student intellectual growth might be measured between the student's point of entry and the point of exit from the institution. The project actually took ACT substantially longer to complete because of the difficulty in collecting enough paired scores to establish stable statistical relationships. However, by fall 1994, ACT was able to deliver longitudinal results, one set of which went to Western Nebraska Community College - a participant in the Partners Project.

MPCCA and the CAAP

MPCCA administered the CAAP test during April of 1997 to 234 students from across the Area. Administrators at MPCCA were able to identify ASSET scores for some but not all of the 234 students. That is, for each student who took the CAAP reading test, a search was conducted to identify that student's entering ASSET reading score. The search resulted in 108 matched pairs. For the writing test, there were 163 matched pairs, and for math there were 162 matched pairs.

ASSET/CAAP Cohort Results

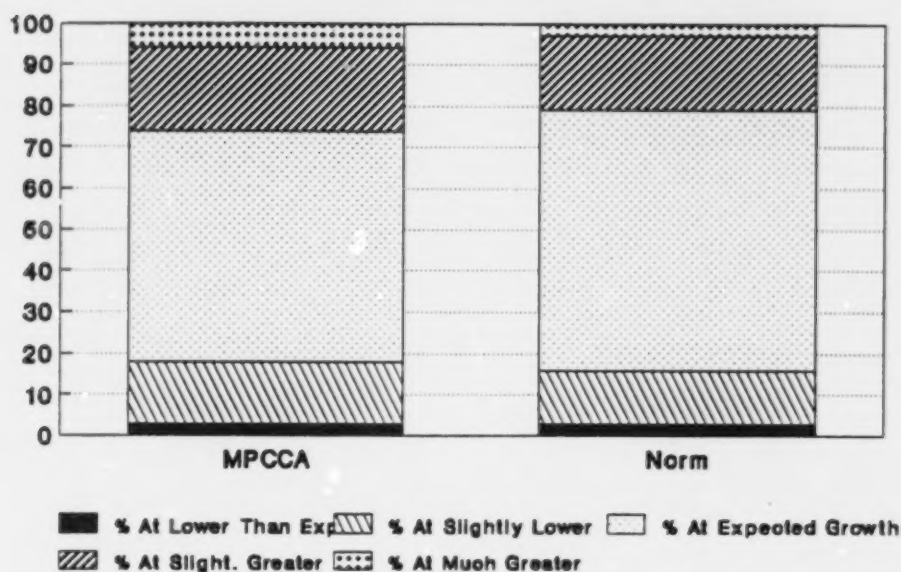
Several items are worth noting as one views the cohort results:

1. ASSET scaled scores are reported on a point range from 23 through 55; CAAP scale scores are reported on a point range from 40 through 80.
2. In order for ACT to establish a meaningful relationships between the two tests (and to report the results in an understandable manner) they have constructed decile (percentage) categories for each test scale. At the present time, decile categories are based upon a national reference group made up of two-year public colleges.
3. ACT maintains that for an institution's results to be useful - there should be 100 ASSET-CAAP matched student records.

ASSET/CAAP Reading Test Cohort Results

There are a number of methods that can be used to display aspects of the reading test results. Figure 1 is a relatively simple visual representation of MPCCA's ASSET/CAAP reading results for the 108 students. (Note: a full copy of the ASSET/CAAP reading test results appears in Appendix A of this document.)

Reading Ability Growth



Changes in ASSET/CAAP Decile Standing -

Figure 1

Percentage of Spring 1997 MPCCA Students with Matched ASSET and CAAP Scores Who Made Higher Than Expected Gains, Slightly Higher than Expected Gains, Expected Gains, Slightly Lower than Expected Gains, and Lower than Expected Gains.
(Normative Comparison Provided).

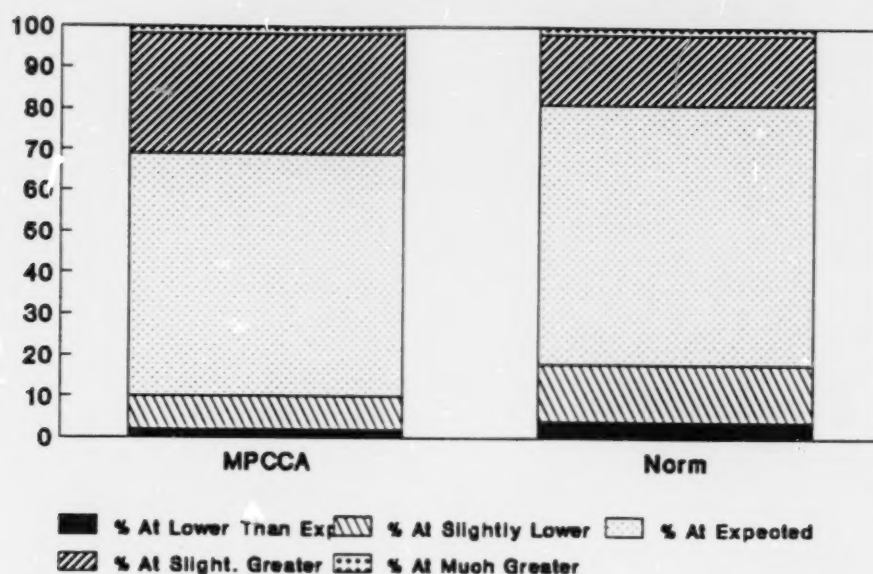
The stacked bar graph which constitutes Figure 1 is a percentage graph. That is, each bar, in total, represents 100 percent. Thus, for the 108 MPCC students who took the ASSET reading test at entry and completed the CAAP reading test at exit: (1) 3 percent or three students ($n=3$) had lower than expected intellectual gains in reading, (2) 15 percent or sixteen ($n=16$) students had slightly lower than expected intellectual growth, (3) 56 percent or sixty ($n=60$) students achieved expected gains, (4) 20 percent or 22 ($N=22$) students achieved slightly better than expected gains, and (5) 6 percent or 7 ($N=7$) students achieved greater than expected intellectual gains.

When the public, two-year college, respective normative percentages are examined - (1) 3 percent reflected lower than expected intellectual gains, (2) 13 reflected slightly lower than expected gains, and (3) 63 percent had expected gains, (4) 18 percent demonstrated slightly higher than expected gains, and (5) 3 percent had greater than expected gains.

ASSET/CAAP Writing Test Cohort Results

Figure 2 is another stacked bar graph which contains percentage results of the ASSET/CAAP writing outcomes for 163 MPCC students. (Again, a full copy of the ASSET/CAAP writing test results appears in Appendix A of this document.)

Writing Ability Growth



Changes in ASSET/CAAP Decile Standing

Figure 2

Percentage of Spring 1997 MPCCA Students With Matched ASSET and CAAP/Writing Test Scores Who Made Higher Than Expected Gains, Slightly Higher Than Expected Gains, Expected Gains, Slightly Lower Than Expected Gains, and Lower Than Expected Gains. (Normative Comparison Included)

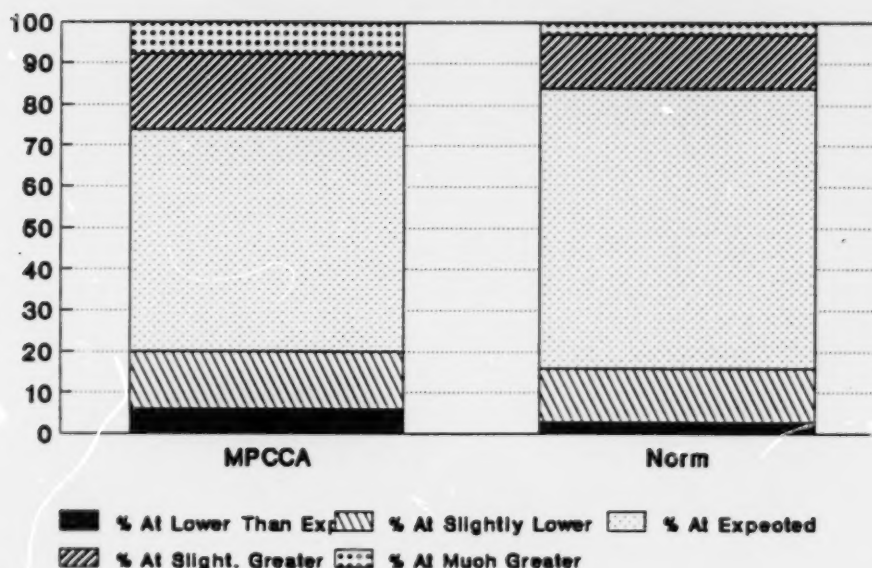
For the 163 MPCCA students who took ASSET writing tests at entry and completed the CAAP writing test at exit (1) 2 percent or three students (N=3) reflected lower than expected intellectual gains, (2) 8 percent or thirteen students (N=13) displayed slightly lower than expected intellectual gains, (3) 59 percent or ninety-six students (N=96) achieved expected gains, (4) 29 percent or forty-seven (N=47) achieved slightly better than expected gains, and (5) 2 percent or four students (N=4) reflected higher than expected gains.

For the aforementioned group, the public, two-year college, respective normative percentages were as follows (1) 4 percent had lower than expected intellectual gains follows, (2) 14 percent had slightly lower than expected, intellectual gains, (3) 63 percent had expected gains, (4) 17 percent had slightly higher than expected gains, and (5) 2 percent had higher than expected gains.

ASSET/CAAP Mathematics Test Cohort Results

Figure 3 is a third stacked bar graph which contains percentage results of the ASSET/CAAP math outcomes for 162 MPCCA students. (A full copy of the ASSET/CAAP math test results appears in Appendix A of this document.)

Math Ability Growth



Changes in ASSET/CAAP Decile Standing

Figure 3

Percentage of Spring 1997 MPCCA Students With Matched ASSET and CAAP/Math Test Scores Who Made Higher Than Expected Gains, Slightly Higher Than Expected Gains, Expected Gains, Slightly Lower Than Expected Gains, and Lower Than Expected Gains. (Normative Comparison Included)

There were 162 matched ASSET/CAAP scores in area of math for MPCCA students. Results were as follows: (1) 6 percent or ten students (N=10) had lower than expected intellectual gains, (2) 14 percent or twenty-three (N=23) reflected slightly lower than expected gains, (3) 54 percent or eighty-seven students (N=87) achieved expected gains, (4) 18 percent or twenty-nine students (N=29) achieved slightly higher than expected gains, (5) 8 percent or thirteen students (N=13) reflected higher than expected gains.

The public, two year college, normative percentages were (1) 3 percent - lower than expected gains; (2) 13 percent - slightly lower than expected; (3) 68 percent expected gains; (4) 13 percent - slightly higher than expected gains; (5) 3 percent - higher than expected.

SUMMARY COMMENTS

1. Some caution needs to be exercised when reviewing the ASSET/CAAP reading results due to the smaller number of matched pairs (n=108).
2. The Area-wide results reported here are more stable and provide a more accurate statistical picture than the MCC and MPCC separate results contained in the Appendix materials. This is so because of the effect of lower numbers of matched pairs on a by-college basis.
3. Important comments offered by the statisticians at ACT are as follows:
 - a. The CAAP test requires greater knowledge and more complex cognitive skills than the ASSET test. Students scoring at the same "level" on ASSET and CAAP must have increased their knowledge and skills.
 - b. The reference group percentages have been adjusted to reflect the same ASSET distribution as MPCCA's cohort. This is needed because if, for example, students in MPCCA's cohort had much higher ASSET scores than the reference group, their overall gains would be less because they had less to gain.
4. On an Area-wide basis, when viewing the results according to a combined percentage of those students who achieved expected gains, slightly greater than expected gains, and greater than expected gains, students reflect greatest "talent development" or intellectual growth in (1) writing - combined percentage was 90%; (2) reading - combined percentage was 82%; and (3) math - combined percentage was 80%. The respective normative numbers were (1) writing - 82%; (2) reading 84%; (3) and math - 84%.